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THESIS

POSITIVE COMMUNICATIONS: THE KEYSTONE OF COUNTERINSURGENCY STRATEGY

by

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December 2013

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Over the last decade, the United States military has struggled to develop methodologies to assess success in its execution of counterinsurgency operations. By examining Zabul province, Afghanistan, this study offers a quantitative method to measure the effectiveness of positive communications that counterinsurgents conduct as part of their information strategy to mobilize public support for the incumbent government. We test the hypothesis that positive communications play a significant role in shaping popular attitudes and, when conducted by counterinsurgents, influence the population to support the government and deny safe haven for insurgents.

Estimating a variety of regression models, we utilize high-resolution spatio-temporal data to isolate the casual effect of population engagements and radio broadcasts in relation to levels of insurgent violence over time and space. The evidence supports our prediction that positive communications conducted by counterinsurgents reduce insurgent violence.

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POSITIVE COMMUNICATIONS: THE KEYSTONE OF COUNTERINSURGENCY STRATEGY

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

CERP	Commanders' Emergency Response Program
COIN	counterinsurgency
DoD	Department of Defense
GIRoA	Government of the Islamic Republic of Afghanistan
GIS	geographic information system
INDURE	international distributed unified reporting environment
ISAF	International Security Assistance Force
LBI	love bank index
MACV	Military Assistance Command —Vietnam
MISO	military information support operations
RIAB	radio-in-a-box
RC	Regional Command
QST	Quetta Shura Taliban
SIGACTS	significant activities
U.S.	United States

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I.   INTRODUCTION

Do positive communications by the state reduce rebel violence during an insurgency? More specifically, what role do positive communications have in gaining the support of the indigenous population for the government? What role do they have in preventing the local populace from supporting insurgent actors? Underlying these questions is a complex problem set that military commanders have faced in assessing victory in every counterinsurgency (COIN) campaign. Measuring progress in a COIN environment is perhaps the most difficult task to accomplish in wartime.[1] Data limitations are partly to blame. It is impossible to measure the cognitive thoughts of the population without directly asking each person. Even if direct questioning was possible, analysts must consider the impossibility of receiving an honest answer from every person.   Direct questioning would prove challenging in a permissive environment and is incredibly dangerous to friendly or neutral personnel in a hostile environment. As a result, conclusive data on popular perceptions is extremely difficult to collect. Throughout the conflict in Afghanistan, military commanders have struggled to find a way to interview representative samples of the population to gain an understanding of the popular perception of both the Government of the Islamic Republic of Afghanistan (GIRoA) and the Taliban.

Not surprisingly, the current body of research on battlefield outcomes lacks systematic studies that analyze the effectiveness of information strategies in conflicted areas such as Afghanistan. This study attempts to address that gap. Though we cannot directly measure popular perception through direct interviews in a contested environment, we can observe the impact of counterinsurgent positive communications to both mobilize public support for the incumbent government and to draw support away from the insurgency. This study explores

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[1] Department of the Army and United States Marine Corps Combat Development Command, *Counterinsurgency, Field Manual 3-24* [electronic resource] (Washington, DC: Headquarters, Dept. of the Army, 2006), x, accessed August 31, 2013, http://permanent.access.gpo.gov/lps79762/FM_3-24.pdf.

quantitative methods for measuring the effectiveness of positive communications that counterinsurgents conduct as part of their information strategy in an attempt to mobilize public support toward the incumbent government. By observing the effect of positive communications on insurgent violence, we systematically evaluate the success of counterinsurgents as they battle for control of the villages, cities, districts, and provinces of Afghanistan. Using a variety of regression models and high-resolution geographic information system (GIS) data collected in Zabul province from 2009 to 2011, we examine the relationship between population engagements, radio messages, and levels of insurgent violence over time and space.

This chapter lays out the contextual background information necessary to understand the role of positive communication in winning the loyalty of a state's population. First, we review the current theoretical framework used to model insurgencies and identify optimal strategic approaches required for both the state and the insurgents to succeed. Second, we review conceptual models of how opposition organizations mobilize popular support and discuss how both hard power and soft power can either coerce or induce the compliance of the population. Third, we briefly review the role of mass communications in today's strategic landscape and examine why a state's use of positive communications can be productive. We then introduce a theory of positive communications and present the hypothesis that positive communications play a key role in reducing insurgent violence. This chapter concludes by defining the research objective, research hypothesis, and research benefits.

A.   COUNTERINSURGENCY REVISITED

1.   The Process and Dynamics of Insurgency

There is a widely held theory that insurgent warfare, unlike conventional warfare, is a struggle for "the hearts and minds" of the people, rather than a battle for territory against an opponent's military forces. This familiar assertion concludes that insurgencies (and counterinsurgencies) are political, not military

conflicts.[2] While one can argue that all war is political, the nature of insurgent warfare is more political than most. The ability to influence people, therefore, is vital to success in insurgent warfare.   Understanding both the process and dynamics of an insurgency is the first step in identifying optimal strategic approaches to defeat it as well as in choosing the correct assessment metrics. These processes and dynamics are best illustrated by Gordon McCormick's "Mystic Diamond," which outlines the interaction among the state and its internal non-ruling challenger(s), their relationship to the domestic population, and the position of international actors (see Figure 1).[3]
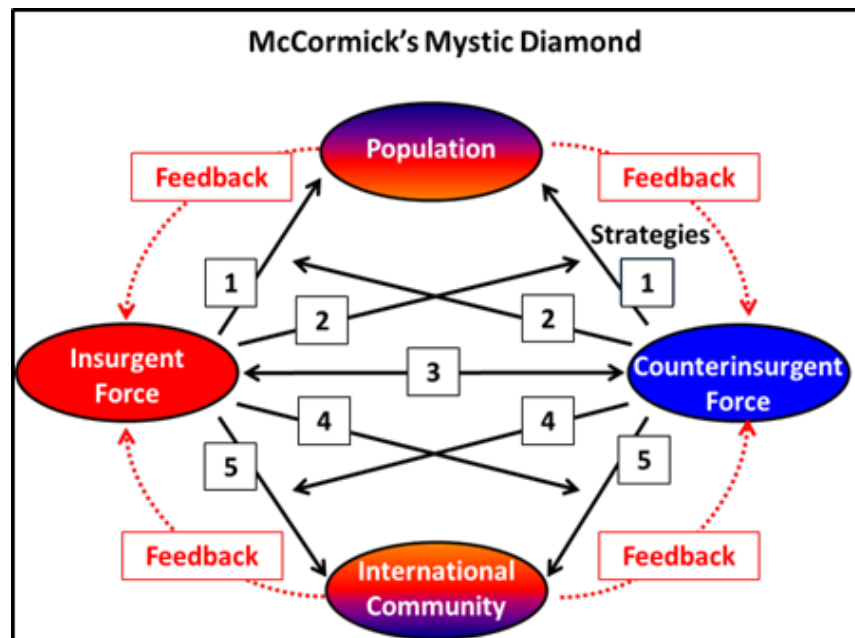
Figure 1.   McCormick's mystic diamond[4]

McCormick argues that at the outset of an insurgency, the state enjoys a force advantage over the insurgents but suffers from an information

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2 Department of the Army and United States Marine Corps Combat Development Command, *Counterinsurgency*, 5–1.

3 Gordon H. McCormick, "Seminar in Guerrilla Warfare" (lecture, Naval Postgraduate School, Monterey, CA, 18 July 2012).

4 McCormick, "Seminar in Guerrilla Warfare," 18 July 2012.

disadvantage.[5] Even though the state has an advantage of force, it lacks the ability to "see" what it wishes to attack. This information disadvantage stems from the fact that insurgent groups are inherently small, dispersed, and embedded within the populace, while the state force is often large, centralized, and isolated from the population. These characteristics offer the insurgent anonymity with unimpeded freedom of movement, providing them with the ability to accept or refuse battle on their own terms. Moreover, this anonymity prevents effective targeting by the security force, neutralizing the counterinsurgent's overwhelming size advantage.[6]

Conversely, an insurgency begins small in material terms while possessing a marked information advantage over the counterinsurgent forces.[7] This information advantage stems from the insurgent's ability to "see" the state's security posture with unimpeded freedom of movement amongst the population. Yet the insurgent often lacks the material resources, funding, and manpower needed to challenge a state's military capability. In sum, because of both sides respective disadvantages in intelligence and resources (people, guns, money), they are evenly matched against each other. Neither the state nor the insurgent can decisively eliminate the other from the contest. All things being equal, the conflict usually extends indefinitely until either a negotiated settlement is reached or a stalemate is broken.[8]   Logically, whichever side first overcomes his disadvantage can substantially erode or diminish his opponent's chances of victory.[9]

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[5] Points in this section are drawn from discussion in Professor Gordon McCormick's Seminar in Guerrilla Warfare, Naval Postgraduate School, Monterey, CA, summer 2012.

[6] Ibid.

[7] Ibid.

[8] Gordon H. McCormick and Frank Giordano, "Things Come Together: Symbolic Violence and Guerrilla Mobilisation," *Third World Quarterly* 28, no. 2 (2007): 295.

[9] Points in this section are drawn from discussion in Professor Gordon McCormick's Seminar in Guerrilla Warfare, Naval Postgraduate School, Monterey, CA, summer 2012.

McCormick concludes that both players can only rectify their disadvantages by following one of the five strategies outlined in his model.[10] As illustrated in his "Mystic Diamond," these strategies are: (1) building a bridge to the population, (2) disrupting the opponent's capability to influence the population, (3) attacking the opponent directly, (4) disrupting the opponent's relation to the international community, and (5) building a bridge to the international community. Viewed from this perspective, the loyalty of the state's population is a decisive factor in the conflict.[11] If an insurgency is a politico-military struggle to overthrow the incumbent government, to establish a new government, to change an existing policy, or to expel an occupying force, then mobilizing the loyalty of the state's population is essential for the insurgency to achieve its political objective.[12] The theory of victory for the state is essentially the same if it wishes to remain in power.

2.   Mobilizing Public Support: "Hard Power" Versus "Soft Power"

Logic dictates that an insurgency requires public support to get started and gain momentum, and that the state requires the same to counter the insurgent threat.[13] This implies that both the insurgent's and the state's prospects are improved by gaining the support of at least some portion of the population, as the collective preference of the population towards either side of the conflict can be a decisive factor in determining the outcome of an insurgency.[14] To gain this preference, both sides must employ a strategy that entices the population to support their cause while deterring the population from supporting the cause of the opposite side. Joseph Nye identifies two strategies

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[10] McCormick, "Seminar in Guerrilla Warfare," 18 July 2012.

[11] Points in this section are drawn from discussion in Professor Gordon McCormick's Seminar in Guerrilla Warfare, Naval Postgraduate School, Monterey, CA, summer 2012.

[12] John Arquilla, Heather Gregg, and Hy S. Rothstein, "Introduction," in *The Three Circles of War* (Washington, DC: Potomac Books, 2010), 4.

[13] Nathan Leites and Charles Wolf Jr, *Rebellion and Authority: An Analytical Essay on Insurgent Conflicts* (Chicago, IL: Markham Publishing Company, 1970), 8.

[14] Points in this section are drawn from discussion in Professor Gordon McCormick's Seminar in Guerrilla Warfare, Naval Postgraduate School, Monterey, CA, summer 2012.

that political actors can employ to influence popular support: hard power and soft power.[15]   Though the concepts of both hard power and soft power have generally been applied to elements of national power employed by states, against other states, these concepts also accurately reflect the strategies used both at the operational and tactical levels in a counterinsurgency.

a.   *Hard Power: Logic of Consequences*

According to Nye, hard power is the ability to change the behavior of others by using either force (threats) or inducement (payments).[16]   This approach highlights the use of military and economic power as a means to mobilize public support.[17]   According to McCormick, when rational actors face alternatives, they select the choice they believe will offer them the highest expected return.[18]   People make choices based not only on their preferences, but also on their expectations about the immediate and future consequences of their actions.[19]   Because political power is the central issue in insurgencies, each side is likely to possess a group of "hard-core" supporters.[20]   The remaining population consists of three groups that reflect varying individual preferences: potential state supporters, potential insurgency supporters, and the undecided.[21]

While it seems likely that hard-core supporters will remain unconditionally loyal to their respective organizations, we assume that the

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[15] Joseph S. Nye, *Soft Power: The Means to Success in World Politics* (New York, NY: Public Affairs, 2004).

[16] Joseph S. Nye, "Soft Power, Hard Power and Leadership" (paper presented at Seminar for Leadership at Harvard University, Cambridge, MA, October 27, 2006), 23, accessed October 31, 2013, http://www.hks.harvard.edu/netgov/files/talks/docs/11_06_06_seminar_Nye_HP_SP_Leadership. pdf.

[17] Nye, *Soft Power: The Means to Success in World Politics*, 4.

[18] Points in this section are drawn from discussion in Professor Gordon McCormick's Seminar in Guerrilla Warfare, Naval Postgraduate School, Monterey, CA, summer 2012.

[19] McCormick and Giordano, "Things Come Together," 298.

[20] Department of the Army and United States. Marine Corps Combat Development Command, *Counterinsurgency,* 1–1.

[21] McCormick and Giordano, "Things Come Together," 301.

individual preferences of the remaining population will vary depending on two sets of conditions.[22] The first condition considers the net assessment of an individual's current costs and benefits that will be achieved by supporting either side. The second condition reflects an individual's perception of the probability of either side winning the conflict.[23] Popular expectations concerning which side is likely to win, in this respect, will have a central effect upon individuals' choices.[24] McCormick summarizes the expected value of the population's support for either side in Table 1.

State's Expected Value $EV_s = b_s - c_s + p_s(b_{ss}) - p_i(c_{si})$	Insurgency's Expected Value $EV_i = b_i - c_i + p_i(b_{ii}) - p_s(c_{is})$
s represents the state	i represents the insurgency
b_s = Present benefit of joining the state	b_i = Present benefit of joining insurgency
c_s = Present cost of joining the state	c_i = Present cost of joining the insurgency
p_s = Probability that the state will win	p_i = Probability that the insurgency will win
b_{ss} = Benefit of joining the state if the state wins	b_{ii} = Benefit of joining the insurgency if the insurgency wins
p_i = Probability that the insurgency will win	p_s = Probability that the state will win
c_{si} = Cost of joining the state if the insurgency wins	c_{is} = Cost of joining the insurgency if the state wins

Table 1.   The opposition's expected value[25]

Comparing each side's expected value, each member of the population should provide his support to the side that offers greater returns, given their preferences. Thus, the side that successfully achieves higher expected values amongst more members of the population, should gain more support and

[22] Ibid.

[23] Ibid.

[24] Ibid., 296.

[25] Ibid., 301.

thereby achieve victory. In this respect, the state pursues a hard power approach because it has the inherent advantage of material resources over the insurgent, and can use such tools to reduce the expected benefits and increase the expected costs of siding with the insurgents. Our literature review identified that most recent quantitative literature on civil conflict generally uses elements of hard power (for example, attrition rate, territory, or gross domestic product per capita) as metrics to assess state success against insurgents, in part because these hard power metrics are tangible, and easy to measure.[26]

b. Soft Power: Logic of Appropriateness

In contrast, soft power is the ability to shape the preferences of others by attraction.[27] This approach highlights the use of intangible assets such as values, attractive personalities, or cultural power to mobilize public support.[28] The inherent qualities of legitimacy and authority draw the population to support the side that uses soft power more effectively. If a side is viewed as legitimate because of the actions it takes and its ability to persuade an audience through effective communication, it will attract greater levels of support. Moreover, institutions with high levels of political credibility and access to multiple means of communication are likely to possess advantages in the deployment of soft power.

Non-state actors who do not possess the advantage of forces or resources are therefore likely to employ soft power to achieve their objectives. This implies that as the information revolution reduces the costs of obtaining and maintaining information, it may also decrease the power of states, providing an

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[26] Eli Berman, Jacob N. Shapiro, and Joseph H. Felter, "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy* 119, no. 4 (August 2011): 766–819, accessed October 21, 2013, http://www.princeton.edu/~jns/publications/Hearts%20and%20Minds_Final.pdf; Luke N. Condra Joseph H. Felter, Radha K. Iyengar, and Jacob N. Shapiro, "The Effect of Civilian Casualties in Afghanistan and Iraq," *National Bureau of Economic Research,* Working Paper 16152 (July 2010), accessed October 31, 2013, http://www.nber.org/papers/w16152.pdf; Jason Lyall, "Does Indiscriminate Violence Incite Insurgent Attacks? Evidence from Chechnya," *Journal of Conflict Resolution* 53, no. 3 (2009), 331–362.

[27] Nye, "Soft Power, Hard Power and Leadership," 3.

[28] Ibid.

advantage to the insurgency that partially substitutes for its disadvantage in material resources.[29] However, little is known about such relationships, as few quantitative studies of civil conflict have used elements of soft power as metrics to assess state success against insurgents, in part because these metrics are by their nature so difficult to measure directly.

3.   The Role of Mass Communications

In a counterinsurgency, the state communicates with the population by various means to gain their trust and support. To counter this, insurgents use the information environment to convey stories and narratives that seek to undermine the state's ability to mobilize the population. The ensuing battle of narratives centers on the need to win over critical elements of the population, such as influential political, military, social, and religious leaders who have either formal or informal power within the society, thereby gaining the compliance of the general population. Moreover, both sides seek to influence not only the local population, but also the regional and global community. They attempt to draw the sympathy of these regional and global networks to gain support, funding, and recruitment platforms. Therefore, a skillful and coherent information strategy by the state to counter the insurgent narrative can prove the difference between victory and defeat.[30]

The success of a state's information strategy hinges not only on the quality of its political message, but also on its ability to disseminate its political message to the population. Mass communication accessibility, in this context, plays a critical role in the state's capacity to influence the behavior of individuals.[31] As Deutsch argued, the production of voluntary compliance can be

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[29] Nye, *Soft Power: The Means to Success in World Politics*, 63.

[30] John Arquilla and Douglas A. Borer, *Information Strategy and Warfare: A Guide to Theory and Practice* (New York: Routledge, 2007), 2.

[31] Camber Warren, "Not by the Sword Alone: Soft Power, Mass Media, and the Production of State Sovereignty," *International Organization* 68 (Winter 2014), 6, accessed October 31, 2013, http://www.camberwarren.net/papers.html.

greatly enhanced by technologies of mass communication.[32] Warren elaborates further on this idea by identifying an empirical linkage between mass communications accessibility and the loyalty of a state's population.[33]   Using cross-national data, he shows that states with high levels of mass communication accessibility are more likely to achieve high levels of voluntary compliance with state dictates, and thus lower levels of internal violence.[34] In a similar manner, it seems reasonable to suppose that positive communications by counterinsurgent forces, such as population engagements and radio messages, could produce higher levels of public support, thereby reducing levels of violence against the state over time and space.

We define positive communications as constructive, non-coercive, and non-lethal activities initiated by counterinsurgents to attract voluntary compliance from the population. Positive communications seek to shape the population's values, preferences, and behaviors through information campaigns, by combining simple actions—such as population engagements and radio broadcasts to inhibit the use of violence against state forces and the civilian population. We suspect that such information campaigns, when combined with concrete actions, can move the population to support the state in greater numbers.

Information campaigns, one of the staples of positive communications, seek to inform local audiences of the government's vision for the future. As Kalev Sepp reminds us:

> …information campaigns explain to the population what they can do to help their government make them secure from insurgents, encourage participation in the political process by voting in local and national elections, and convince insurgents they can best meet

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[32] Karl W. Deutsch, *Nationalism and Social Communication: An Inquiry Into the Foundations of Nationality* (Cambridge: Technology Press of the Massachusetts Institute of Technology, and New York: Wiley, 1953), 10.

[33] Warren, "Not by the Sword Alone," 6.

[34] Ibid., 10.

their personal interests and avoid the risk of imprisonment or death by reintegrating themselves into the population…[35]

Radio, one medium essential to the delivery of messages in an information campaign, provides a channel to promote social norms and create an environment that is favorable and conducive to siding with the state. In Afghanistan, counterinsurgent-sponsored radio stations mix local musical entertainment with conversational programs that relay the government's positive actions to the population. These messages play an important role in shaping public opinions and sentiments. When followed up with actions, we suspect that radio messages can help the government gain a public support advantage over the insurgency.

Population engagements provide another medium to influence the population. Population engagements not only provide an opportunity for counterinsurgents to build trusted networks with critical communicators and power brokers within the population, they also allow a face-to-face venue for counterinsurgents to directly shape the perceptions of the population. Population engagements are critical to influencing individuals, especially where radio broadcasts have already shaped popular attitudes in ways conducive to the state. The combination of population engagements and radio messages provides the government with a powerful platform to gain the trust and confidence of the population. When combined with actions, we suspect that using these mediums to conduct information campaigns can result in substantial gains for the government.

Our thesis seeks to provide evidence for these claims, by comparing the effects of population engagements and radio messages in areas where the incumbent forces can exercise mechanisms of mass communications, to their effects in areas where the state lacks such abilities. We argue that what counts

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[35] Kalev Sepp, "Best Practices in Counterinsurgency," *Military Review* (May–June 2005): 5, accessed November 12, 2013, http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_2006CR1031_art00 6.pdf.

as success in this regard can be represented by the ability of the state to prevent the population from using violence against the state or against each other. A relative drop or lack of violence is therefore an ideal empirical indicator of variance in the success of counterinsurgent forces.

B. RESEARCH OBJECTIVE

Since 2009, the U.S. has embarked on a population-centric approach to assist GIRoA in combating Taliban insurgents in Afghanistan. The focus of this approach centers on protecting the population, while balancing the use of both hard power and soft power. The use of soft power, such as population engagements and radio messages, meets our definition of positive communications. But has this strategy been successful?

An examination of lessons learned by past counterinsurgency campaigns reveal a lack of systematic studies that analyze the impact and effectiveness of positive communications conducted by counterinsurgents. This study seeks to systematically measure the effectiveness of positive communications by counterinsurgents in time and space. To do this, we use high-resolution GIS data to isolate the casual effect of selected aspects of positive communications upon insurgent violence levels across Zabul province, Afghanistan in 2010 and 2011.

C. RESEARCH QUESTION

Leveraging this combination of temporal and spatial datasets, we develop a regression model to answer the following question: To what degree do positive communications conducted by counterinsurgents reduce violence during an insurgency?

D. WAY AHEAD

The following chapters discuss the development and implementation of our positive communications assessment model. Chapter II provides insight into some initial attempts by U.S. forces to measure the effectiveness of

counterinsurgency operations. It reviews previous literature on the subject and reports some gaps and shortfalls that our research attempts to fill.

The third chapter explains why we chose Zabul as the test bed for our research. This chapter identifies each of our variables and their sources, and explains the methods we used to structure the data used in our regression model.

The fourth chapter reports the results of our regression model and examines their implications for currently accepted counterinsurgency doctrines. Chapter V discusses our recommendations to optimize the effects of positive communications in COIN campaigns and identifies avenues for follow-on research.

E.   BENEFITS OF THE STUDY

This research offers a new way to quantitatively analyze the effectiveness of counterinsurgency operations.   This model demonstrates which factors counterinsurgents should use to measure their effectiveness, and can provide instant feedback on their actions when measured over time.   Scalable to measure effectiveness at any scale from a village to a country, this model can potentially serve as a battlefield tool from the platoon to the corps level of command, giving commanders the ability to assess the effectiveness of their positive communication actions and adjust tactics as necessary to meet their mission objectives.

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II.   BACKGROUND

Assessing the effectiveness of counterinsurgency operations is difficult. Some attempts seek to measure effectiveness from a purely subjective perspective.[36] Others try to measure effectiveness objectively, gathering either too many metrics or focusing their efforts on gathering the wrong ones.[37] This project has its roots in one of these similar attempts—the love bank index of Combined Team Zabul. This chapter discusses the love bank index, what was measured, and how we decided to improve upon this model using quantitative assessments of battlefield effectiveness. In this chapter, we also explore existing publications that attempt to develop methodologies for COIN assessment. We report the gaps and shortfalls that we discovered in the current body of literature regarding COIN assessments and describe how we intend to measure the impact of positive communications that counterinsurgents conduct as part of their information strategy.

A.   THE LOVE BANK INDEX

While in Afghanistan in 2010–2011, one of the authors, serving with the U.S. Army's 2nd Cavalry Regiment information operations cell, experimented with approaches to measuring the perception of the local population in Zabul province towards GIRoA and Taliban insurgents, both of whom competed to win their support. These experiments in assessment methodologies resulted in a metric collection platform the unit referred to as the "love bank index" or LBI for short.[38]

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[36] Ben Connable, *Embracing the Fog of War: Assessment and Metrics in Counterinsurgency* (Santa Monica, CA: The RAND Corporation, 2012).

[37] Gregory A Daddis*, No Sure Victory: Measuring US Army Effectiveness and Progress in the Vietnam War* (New York: Oxford University Press, 2011).

[38] Michael J. Sieber and Matthew Daigle, "Measuring Influence: The Love Bank of Combined Team Zabul, Afghanistan" (White Paper, 2010).

The LBI considered actions (positive and negative) taken by counterinsurgents and insurgents, and evaluated the effects of these actions on the aggregate population's perception, by district. The unit measured changes to each district's LBI score in an attempt to measure popular perception over time. As a co-creator of the LBI model, one of the authors of this work took lessons learned from that model to develop a model that more accurately measures the effect of counterinsurgent actions. Instead of seeking to measure popular perception directly, we seek to assess the impact of positive communications by measuring levels of communication activity, the reach of communication infrastructure, and the levels of violence that result from variation in these conditions over time and space.

B.   LITERATURE REVIEW

A review of existing research identified several books, journal articles, and Department of Defense (DoD) publications that provide recommended techniques and procedures to assess COIN effectiveness. These publications provide basic principles of assessments, but generally do not discuss the analytical methodologies needed to actually conduct the assessments.[39] Though most sources recommend a balance of quantitative and qualitative metrics, no source lays out a scientific method to combine these metrics in a coherent manner that accurately describes the situation on the battlefield.

Many works point out methodologies that failed to measure success in COIN campaigns. For instance, Daddis provides several explanations of the shortcomings of American assessment methodologies in Vietnam, while

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[39] James Clancy and Chuck Crosset. "Measuring Effectiveness in Irregular Warfare," *Parameters* 37, no. 2 (2007): 91–98, accessed November 18, 2013, http://strategicstudiesinstitute.army.mil/pubs/parameters/articles/07summer/clancy.pdf; Connable, *Embracing the Fog of War*, 59–169; Jason Campbell, Michael E. O'Hanlon, and Jeremy Shapiro, "How to Measure the War: Judging Success and Failure in Counterinsurgency," *Policy Review* no. 157 (October 2009): 4, accessed November 18, 2013, http://www.hoover.org/publications/policy-review/article/5490; David Kilcullen, *Counterinsurgency* (New York: Oxford University Press, 2010), 51; Department of the Army and United States Marine Corps Combat Development Command, *Counterinsurgency*, 5-26–5-29;United States, *Counterinsurgency Operations*, *Joint Publication 3-24* [electronic resource] (Washington, DC: Joint Chiefs of Staff, 2009), x-15–x-19.

Connable discusses the failures of assessments of U.S. forces in Afghanistan.[40] Nearly all of the sources that we explored recommend or assume that a centralized assessment collection method is a necessary function of the DoD and the U.S. government as a whole. Connable's work, however, points out that these centralized mechanisms are a major shortfall in COIN assessment systems. Core metrics, according to Connable, fail to capture the localized context of insurgencies and are not applicable across all operating environments.[41] He argues that because of inherent inconsistencies in such metrics, the military should conduct assessments in a more decentralized manner.

From 2010 to 2011, for example, assessment methodologies conducted by International Security Assistance Forces (ISAF) focused on qualitative assessments by commanders at the district and provincial levels. These reports were fed into a centralized report provided to the Northern Atlantic Treaty Organization headquarters and U.S. policymakers by the Afghan assessment group at ISAF Joint Command.[42]

According to Daddis, American forces in Vietnam experienced complications by collecting too many data points without evaluating how accurately such data reflected progress on the battlefield.[43] Few within Military Assistance Command—Vietnam (MACV) analyzed the collected data, leaving senior officers with no way of accurately assessing their level of success in COIN operations. Daddis further discusses how "systems analysis" became the tool of choice for Secretary of Defense Robert McNamara and his staff. Faulty application of the systems analysis methodologies encouraged the measurement of a large amount of variables instead of identifying few metrics that reflect

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[40] Daddis*, No Sure Victory,* 330; Connable, *Embracing the Fog of War*, 153–200.

[41] Connable, *Embracing the Fog of War*, 171.

[42] Ibid., 158; Examples include battle space owner assessments in Regional Command (RC)-West, line of operations ratings in RC-East, and significant activities reports in RC-North.

[43] Daddis, *No Sure Victory,* 330.

strategic objectives.[44]   Consequently, MACV, and much of DoD, went about measuring everything and, therefore, in effect, measured nothing. In the process of data collection, the data became an end unto itself.[45]

Both Connable and Daddis show extensive proof that counterinsurgents must nest assessments to strategic objectives. According to Daddis, the U.S. Army in Vietnam often stumbled through the conflict without a consensus on its strategy. Analysts never linked the actions of combat units to strategic objectives because metrics failed to connect the two. Counterinsurgent decision makers and staffs must nest metrics with strategic objectives to accurately measure progress.

C.   LITERATURE SHORTFALLS

Our literature review reveals significant gaps in COIN assessment methodologies. Only a few recent academic journals and working papers have used empirical data to examine variation in the effectiveness of COIN strategies. In 2010, Luke Condra and his colleagues found a positive relationship between civilian casualties and the levels of future violence in Iraq and Afghanistan.[46] Jason Lyall, on the other hand, found the opposite effect in Chechnya from 2000 to 2005, using Russian artillery data to show a negative correlation between the amount of rounds fired and acts of violence in a geographic area.[47] In 2011, Eli Berman and colleagues developed and tested an economic theory of insurgency, seeking to find a causal relationship between reconstruction spending and insurgent violence during Operation Iraqi Freedom. Their results support the theory that improved service provision reduced insurgent violence, particularly for smaller projects.[48] Although these three studies provide useful and compelling

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[44] John E. Gibson, John, Willian T. Schener, and Wiliam F. Gibson, *How to Do System Analysis* (Hoboken, NJ: John Wiley and Sons Inc., 2007).

[45] Daddis, *No Sure Victory*, 330.

[46] Condra et al., "The Effect of Civilian Casualties in Afghanistan and Iraq," 7.

[47] Lyall, "Does Indiscriminate Violence Incite Insurgent Attacks," 332.

[48] Berman, Shaperio, and Felter, "Can Hearts and Minds Be Bought," 766–819.

insights, they generally treat aspects of hard power (for example, mortar shells and Commander's Emergency Response Program or CERP funding) as their key independent variables when assessing state success or failure against insurgents.

Most recently, using cross-national data on mass media accessibility, Camber Warren found strong evidence that communications (for example, soft power) play a central role in preventing the onset of civil conflict.[49] Our model builds on this research, using high-resolution, spatio-temporal data to determine the effect of positive communications in the midst of a COIN campaign.

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[49] Warren, "Not by the Sword Alone," 10.

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III. RESEARCH DESIGN

This chapter outlines our analytic strategy. To gain an understanding of the effect of positive communications in a zone of conflict, it is critical to understand the operational environment in which it is applied. Effective analysis requires recognition of the mechanics that counterinsurgents use to deliver positive communications, in addition to an understanding of the many variables that can affect how positive communications are received by the targeted population. The first section explores the province of Zabul in southern Afghanistan, including why we chose this province to conduct our research. The second discusses the methodology that we used. The third describes all variables that we considered to potentially affect the reception of positive communications by the people of Zabul province.

A. WHY ZABUL?

Zabul province provides an ideal venue for analysts to assess the effectiveness of positive communications in a counterinsurgency environment. Throughout the conflict in Afghanistan, control of Zabul has fluctuated, with the population showing support for both the Taliban and GIRoA at different times. Representing a cross section of southern Afghanistan, Zabul has wide flat valleys, snow covered peaks, and rolling terrain—a microcosm of entire country. The people of this agrarian province have used the tribal Jirga system to govern themselves for generations. Through self-government and limited external communication, the people of Zabul have generally remained focused on satisfying their immediate needs. They have seen countless outsiders pass through their fields over the years and pay little attention to the problems of the outside world. Because of its location, its demographics, and its ever-present state of contestation between GIRoA and the Taliban, we chose Zabul province to explore the effects of COIN positive communications.

1.   Location and Terrain

The location of Zabul in southern Afghanistan lends itself to conflict. Situated northeast of Kandahar, Zabul province also shares borders with the provinces of Uruzgan, Ghazni, Paktika, and the Baluchistan province of Pakistan. The province is well connected to the rest of Afghanistan because of major improvements on the Highway-1 ring road, which dissects the province through the central districts of Shahjoy, Qalat, and Tarnak wa Jaldak. Given optimal road conditions, a motorist, driving from the provincial capital of Qalat, can reach Kandahar in just over two hours and can reach Kabul in approximately six hours. GIRoA, ISAF, and locals all use the ring road to transport troops, crops, and supplies. Zabul's proximity to Kandahar, Pakistan, and Kabul leads many transients to pass through the province on a regular basis.

In Zabul, Highway-1 parallels the Tarnak river, which carves out a wide, flat valley through the middle of the province. The Arghandab river valley parallels the Tarnak to its north, beginning in the higher elevations of the northeast Arghandab district and running through Mizan towards Kandahar city. The northern districts consist of severely restricted terrain towards the snowcapped peaks of the Hindu-Kush mountains, while the restricted terrain in the southern districts limits travelers to only a few mountain passes towards the central valley, which flattens into rolling hills in the southern bare lands of the province. This mountainous terrain makes it difficult for counterinsurgents to extend their sphere of influence and control throughout Zabul.

The Taliban uses Zabul's terrain to facilitate the transportation of fighters in and out of Afghanistan, with direct lines of communication to the Quetta Shura Taliban (QST), headquartered in the city of Quetta, Pakistan.[50] Utilizing the porous national border between Zabul's Shamulzai district and Pakistan, Taliban insurgents make their way into Zabul and then transit the Arghandab river valley

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[50] Jeffrey Dressler and Carl Forsberg, *The Quetta Shura Taliban in Southern Afghanistan: Organization, Operations, and Shadow Governance* [electronic source] (Washington, D.C: Institute for the Study of War, 2009), 5, accessed October 6, 2013, http://www.understandingwar.org/sites/default/files/QuettaShuraTaliban_1.pdf.

and the Tarnak river valley, both of which provide natural concealment for fighters heading towards Kandahar. To make this journey unimpeded, it is essential for the Taliban to have the support of Zabul's population along these routes. Figure 2 provides a visual representation of Zabul province, and its major roads.
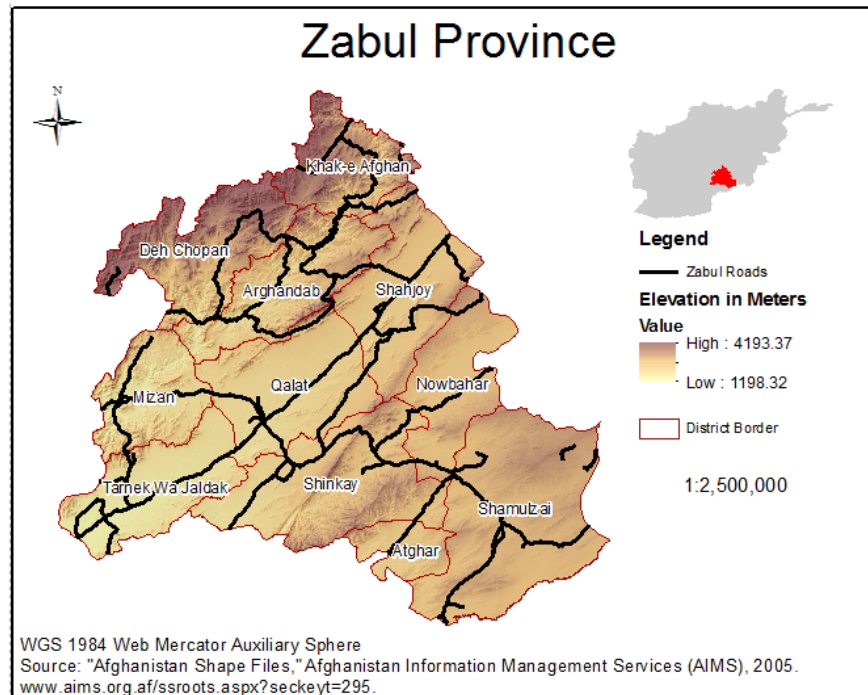
Figure 2.   Zabul province[51]

2.   Demographics and Communication in Zabul

Zabul, situated in the heart of Afghanistan's Pashtun belt, has an estimated population of over 400,000 scattered across sparse pockets of villages across the province. The cities of Shah Joy and Qalat, both along Highway-1, have larger population counts, but are by no means urban centers. Zabul's sparse villages result in a limited dissemination of news and information across the province. When an incident, such as a Taliban act of intimidation or a GIRoA

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51 "Afghanistan Shape Files, Roads—(Line)" (Islamabad, Pakistan: Afghanistan Information Management Services, 2005), accessed August 1, 2013, http://www.aims.org.af/ssroots.aspx?seckeyt=295.

act of governance, occurs in one village, news of that event propagates quickly by word of mouth through the surrounding villages, but it may take weeks or months for news of that event to reach clusters of villages elsewhere in the province. Radio facilitates the spread of information across the province at a more rapid rate.

The population listens to a variety of government and independent radio stations to get their news. Print media is a non-factor, with an 11 percent literacy rate across the province.[52] The sparse villages of Zabul and limited communications means across the province allow influencers to control the flow of information, using the limited information environment to their advantage.

3. Zabul's State of Contention

The population of Zabul sits mostly on the fence when it comes to choosing acceptance of the Taliban or GIRoA (see Figure 3). From 2010 through 2011, GIRoA was firmly in control of Qalat district and the Taliban was firmly in control of Khaki-Afghan district.[53] The other nine districts remained in various states of contestation, with the advantage ebbing and flowing between the Taliban and GIRoA over the course of the years.[54]

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[52] Ann Marlowe, "The Back of Beyond: A Report from Zabul Province," *World Affairs* (March—April, 2010), accessed October 7, 2013, http://www.worldaffairsjournal.org/article/back-beyond-report-zabul-province.

[53] Michael J. Sieber, "Field Notes: Zabul Province" (2011).

[54] Unfortunately, this status quo may have changed in the spring of 2013 with the April car bomb that targeted Provincial Governor Mohamed Naseri outside of the governance compound in Qalat. The attack killed six Americans, including U.S. diplomat Anne Smedinghoff. Governor Naseri was not injured in the blast; however, the fact that a large-scale attack was successfully executed on the doorsteps of the Provincial Government Center in Qalat possibly changed the dynamic of control as ISAF forces relinquish more responsibilities to ANSF and GIRoA. For more information on this attack. Ernesto Londoño and Anne Gearan. "Six Americans, Including Three Civilians, Killed in Attacks in Afghanistan." *Washington Post* (April 6, 2013), accessed October 7, 2013, http://articles.washingtonpost.com/2013-04-06/world/38321987_1_kerry-u-s-embassy-diplomat.
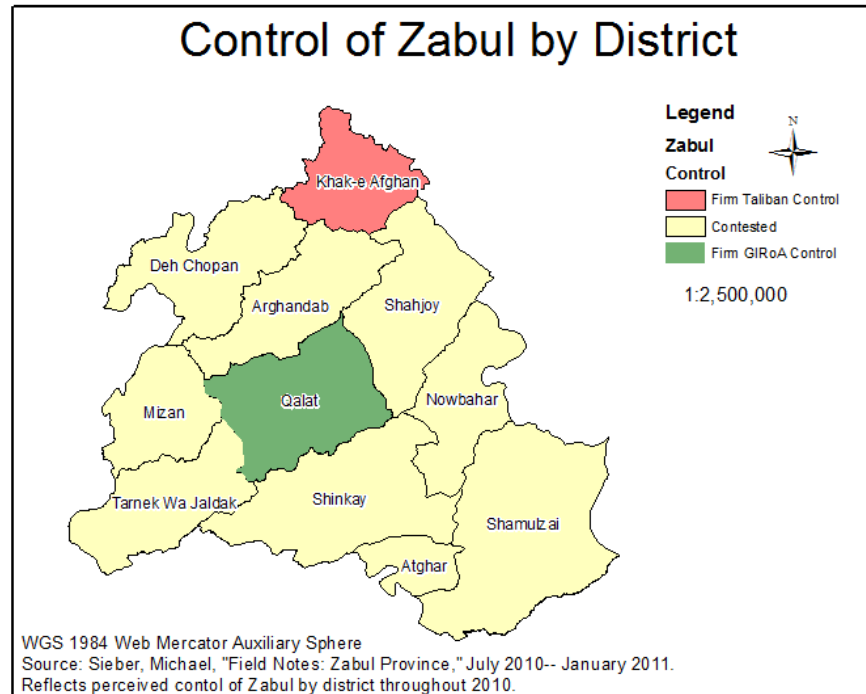
Figure 3.   Control of Zabul by district[55]

The Taliban and GIRoA continually compete for governance authority at the district and village levels throughout Zabul.   The Taliban enjoys more success in integrating with the tribal social structure and Jirga systems that have governed clusters of villages throughout southern Afghanistan for generations. One of the reasons for this success lies in their understanding of the tribal dynamics of each area, which allows them to appoint leaders from the same clans to represent their interests.   GIRoA, on the other hand, appoints sub-national government leaders from a more nationalistic perspective.   Since its creation, GIRoA has attempted to influence its citizens to identify as Afghans, a concept that has not gained much traction over the years, especially in the southern Pashtun regions.   Pashtuns continue to identify themselves by family

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[55] Sieber, "Field Notes: Zabul Province." The author generated this visual presentation using field notes and ARCGIS software.

and tribal ties as opposed to identifying themselves as Afghans as a whole.[56] The Taliban can partially attribute their success to the population's sympathy for their Pashtun roots and their lack of a national identity. Through generations of conflict, the Pashtun tribes have developed distrust for outsiders, whether foreign militaries patrolling through villages, or Afghan government appointees from a distant tribal clan. The Taliban identify with at least some of the population as home grown fighters battling to prevent the influence of the occupying ISAF upon the people of Afghanistan.

GIRoA's Independent Directorate for Local Governance, which works directly for President Karzai, appoints district governors throughout Afghanistan. In Zabul province, district governors often originate from different parts of the country or from different tribal affiliations, putting them at a disadvantage as they attempt to gain the trust and influence of the population.[57] In Zabul, elders and local residence from the Tokhi clan, for example, will view a district governor from the Nasir clan with suspicion, even though they are both from clans of the Ghilzai tribe.

Because of its location, its demographics, and its ever-present state of contestation between GIRoA and the Taliban, Zabul province provides an ideal venue to measure the state's ability to broadly disseminate its political message through the use of mass communications to extend its influence and control over the population. In this context, we use the radio broadcasts and population engagements by counterinsurgent forces to examine the state's success in extending control and influence over the local population.

B.   METHODOLOGY

To investigate the relationship between insurgent violence and positive communications, we divided Zabul into grid squares of various resolutions. After

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[56] Ellen Haring, "Mobilizing Identity in the Pashtun Tribal Belt," *Small Wars Journal* (March 17, 2010), 5, accessed November 12, 2013, http://smallwarsjournal.com/blog/journal/docs-temp/393-haring.pdf.

[57] Sieber, "Field Notes: Zabul Province."

experimenting with various grid squares, we discovered that 4000-meter grid squares provide the best insight for our data analysis. Maintaining a 4000-meter grid resolution enabled us to observe the effect of all aspects of positive communications without blurring the range of our control variables. The unit of analysis for our dependent variable is the grid-week, which counted the number of violent events that occurred in each grid square during the course of a week. We accounted for all positive communications variables (radio messages, welfare engagements and shura engagements) by the total count of events that occurred per grid-week. We consider the effects of welfare engagements and shura engagement on insurgent violence at radii of 5000-meters and 15,000-meters respectively.

Because our dependent variable is a "count" variable, which takes only positive integer values, and because the distribution of this variable is likely to be over-dispersed, we utilize a quasi-Poisson regression model, which incorporates a separately estimated dispersion parameter. Using this specialization, with our full set of control variables (described below), we examine the effects of welfare engagements, shura engagements, and radio messages on levels of violence across time and across space.

C.   DESCRIBING THE VARIABLES

To provide evidence for our hypotheses, we first need to know the baseline level of insurgent violence before positive communications are introduced, if we are to isolate the positive communication's independent casual effect. Additionally, without significant control variables, it is difficult to assess whether the observed increase or decrease in insurgent violence has been actually generated by the introduction of positive communications. To support our empirical investigation, we have collected data from several sources to analyze the relationship between positive communications and insurgent violence in Zabul.   Additionally, we consider several control variables that may affect the

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amount of violence that occurs in a particular area and time. In this section, we will explore each of these variables.

1. Dependent Variable

Insurgent violence is the dependent variable in this model. We consider insurgent violence to be actions taken by insurgent or criminal elements to kill, injure, or destroy someone or something.[58] Given that these coercive actions are used by individuals or groups to rebel against the state's rule of law, we can interpret a relative decrease or lack of violence as evidence that the counterinsurgent's positive communication has been effective. In our model, insurgent violence records a count of the number of events that occurred in a particular grid square during the course of a week. This variable consists of selected categories of significant activities (SIGACTS) identified in the international distributed unified reporting environment (INDURE) database for Zabul province from 2009 through 2011. This study limits the insurgent violence variable to four sub-categories: criminal events, enemy action, explosive hazards, and threats. We define each of these variables in Table 2.

SIGACTS category	Definition
Criminal Event	Reported activities that break the laws of GIRoA.
Enemy Action	Reported activities initiated by insurgent groups to kill, injure, or destroy.
Explosive Hazard	Reported incidents of confirmed or potential explosive devices (includes IEDs and unexploded ordnance.)
Threats	Confirmed incidents of violence toward the population or counterinsurgent actors in an area.

Table 2.   SIGACTS categories[59]

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[58] Oxford University Press, "Oxford Dictionaries," accessed August 11, 2013, http://oxforddictionaries.com/definition/english/violence.

[59] Data provided by international distributed unified reporting environment (INDURE) database. For access, go to https://www.pixtoday.net/login/login.htm.

2. Independent Variables

Our key independent variable, positive communications, consists of two significant aspects: ***population engagements*** and ***radio messages***. To guard against false results because of reverse causation, we lagged each independent variable by one week.

a. *Population Engagements*

Population engagements are recorded instances of COIN representatives meeting with a segment of the population in a public forum, which we categorize as ***welfare engagements*** and ***shura engagements***. Welfare engagements are events in which counterinsurgents distribute goods or basic human needs to the local population. Shura engagements are deliberate meetings between senior COIN representatives and influential district, tribal, village, and religious leaders from a select location. Both types of engagements are aggregated by total count of events per grid-week. The U.S. Army 2nd Cavalry Regiment collected this data as one of the unclassified inputs into the LBI.[60] These population engagements cover all COIN engagements conducted by the regiment from July through December 2010.

b. *Radio Messages*

The second aspect of positive communications that we explore in this model is ***radio messages***. For purposes of this research, radio messages consist of the following sub-categories: 1) live radio interviews conducted by GIRoA officials to inform local audiences of the government's vision for the future; 2) military information support operations (MISO) designed to influence a segment of the population to act in a specified manner; 3) Afghan National Security Force communications to the public regarding what they can do to help security forces make them secure from insurgents; and 4) public service

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[60] Sieber, "Field Notes: Zabul Province."

announcements created by GIRoA, ISAF, or non-government organizations. Radio messages are aggregated by the total count of *new* messages per week.

Contracted radio disc jockeys broadcasted these messages on a network of eleven local radio stations setup by ISAF throughout the province. These stations broadcasted using 50-watt or 300-watt radio transmitters purchased with CERP funds in a broadcast studio package commonly referred to as radio-in-a-box (RIAB).[61] The disc jockeys replayed messages cyclically over the course of several weeks until newly created messages gradually replaced them. Local disc jockeys at each radio station mixed these messages with popular music and live programming and held artistic license to create positive programming as desired. The disc jockeys reported the recorded messages broadcasted by frequency and informed ISAF of live broadcasts and interviews they had conducted. This study captures the introduction of new messages to the airwaves between July 16, 2010 and January 6, 2011.[62]

Radio plays an important role in the information environment, as it remains the primary media medium in Zabul province and throughout most of southern Afghanistan. GIRoA and ISAF sponsor a majority of the stations broadcasting in the area through the RIAB program. Though several other stations broadcast in the province, these local radio stations served as GIRoA's primary means of communicating to the public.

3. Control Variables

Other variables exist that may affect the relationship between counterinsurgent actions and the amount of violence that occurs in a particular area. We consider several variables based on the demographics and physical characteristics of Zabul, such as RIAB coverage area, the total amount of CERP money spent in an area by the counterinsurgents, population size, wealth, elevation, roads, access to cities, district boundaries, settlement locations, tribal

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[61] Ibid.

[62] Ibid.

and clan affiliation, land coverage, and location of radio towers. We also included the planting and harvesting schedules for wheat and poppy along with lags of violence generated by both insurgents and counterinsurgents to account for temporal, spatio-temporal, and pre-existing differences in levels of contestation across the province.

a.   RIAB Coverage

RIAB Coverage is the most important control variable in our regression analysis. It measures mass communication transmission capacity over space, and thus captures variation in the state's ability to employ mechanisms of communication to influence the preference and expectations of the population. Areas where the state broadcasts through mass communication may be less likely to rebel against the state than areas where it does not. To capture the broadcast coverage area of the RIAB radio network, we conducted a propagation study using the tower location, transmitter power, and tower height for each of the RIAB locations in Zabul province.[63] There are 11 tower locations in the province with various broadcast power and antenna heights. [64] Because of terrain, several areas within each tower's coverage area are unable to receive a transmission. The approximate RIAB coverage for Zabul province is pictured in Figure 4.[65]

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[63] The author conducted this propagation study using software purchased from CloudRF.com.

[64] Sieber, "Field Notes: Zabul Province."

[65] Environmental Systems Research Institute, Inc., *ArcMap 10.1* (Redlands, CA: ARCGIS 10.1, 2012).
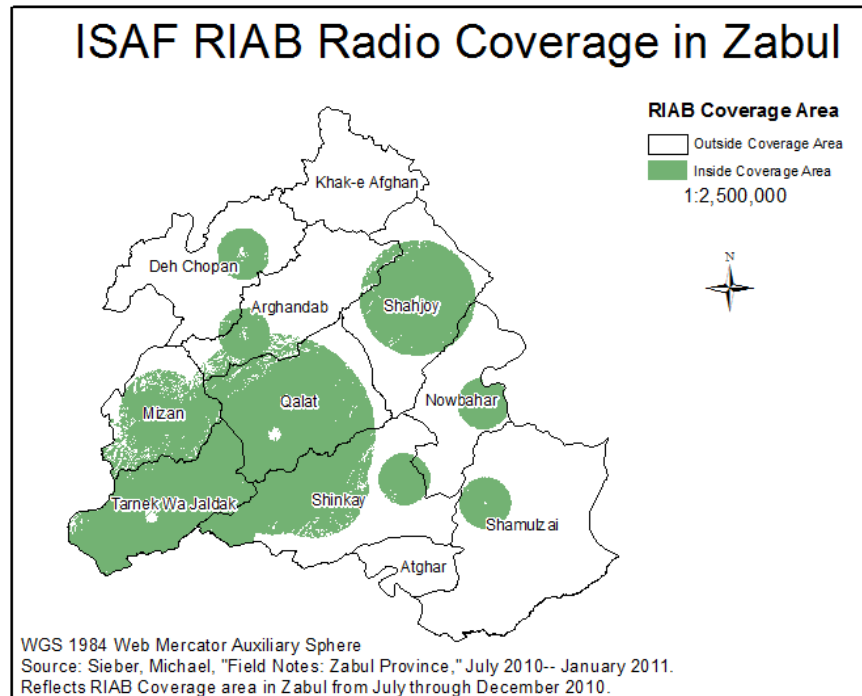
Figure 4.   Zabul's RIAB radio coverage area[66]

b.   Commanders' Emergency Response Program

CERP is a U.S.-funded tool that "…provide[s] commanders with a non-lethal weapon system for high payoff projects and services. CERP provides a quick and effective method to institute an immediate positive impact on the Afghan people."[67]   While Berman and colleagues found it to reduce insurgent violence, particularly when used in smaller projects, we use it as a control variable in our regression analysis to isolate the effects of the soft power elements of positive communications. Available through the INDURE database, this data shows all CERP spending in Zabul province from 2009 through 2011.[68]

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[66] Sieber, "Field Notes: Zabul Province."

[67] U.S. Forces Afghanistan U.S. Forces, *Money as a Weapon System: Commander's Emergency Response Program Standard Operation Procedures*, Vol. 1-06 (Kabul: Department of Defense, 2009), 5, accessed November 22, 2013, http://publicintelligence.net/money-as-a-weapon-system-afghanistan-maaws-a-sop-2012/.

[68] Data available upon requested.

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For this study, we configure the CERP variable to focus on the effects of essential service projects, aggregating the total cost of these projects by a radius of 10000-meters.

c.   *Population*

Urban areas are often associated with a higher level of violence than rural areas. To examine this, we compiled data derived from Oakridge National Laboratory's Landscan project to estimate the population across the province in 2011 and data derived from U.S. Agency for International Development's measuring the impact of stabilization initiative village dataset to provide refinement on the location of urban areas across the province.[69] The combination of both datasets provides resolution down to the village level and offers insight into precisely where people live. Population is log-transformed to account for diminishing marginal effects in areas with a higher population distribution. Figure 5 provides a snapshot of population density across Zabul province.

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[69] Eddie A. Bright, Phil R. Coleman, Amy N. Rose, and Marie L. Urban, *Landscan 2011 Global Population* (Oak Ridge, TN: Oak Ridge National Laboratory, 01 July 2012), accessed September 31, 2013, http://web.ornl.gov/sci/landscan/; Human Response COD-FOD Registry—Afghanistan: Settlements (Villages, Towns, Cities), accessed August 8, 2013, https://cod.humanitarianresponse.info/dataset/afghanistan-settlements-villages-towns-cities-0.
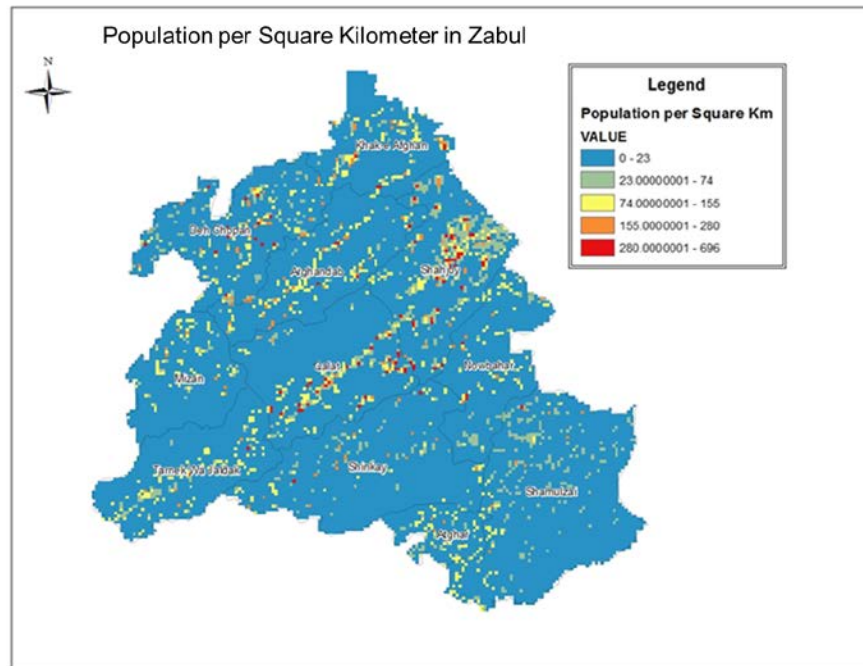
Figure 5.   Where the people live in Zabul[70]

d.   Wealth

Wealth measures the average gross domestic product per capita for each location within Zabul. Wealth considers previous research, which concludes that, "higher levels of poverty are likely to translate into higher levels of insurgent violence since [individuals] have more incentives to take up arms to acquire [resources] to ward off destitution and starvation."[71] This variable is log-transformed to account for diminishing marginal effects.[72]

e.   Elevation

A correlation may exist between mountainous terrain and increased level of violence because of a state's difficult in establishing control at higher elevations. To examine this, we draw elevation data from the U.S. Geological

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[70] Bright et al., *Landscan 2011 Global Population*.

[71] Lyall, "Does Indiscriminate Violence Incite Insurgent Attacks?," 332.

[72] William Nordhaus, *Geographically Based Economic Data: Afghanistan Calculation*, ed. Qazi T. Azam (New Haven, CT: Yale University, 2005), accessed October 31, 2013, http://gecon.yale.edu/afghanistan.

Survey through the University of Maryland's Global Land Cover Facility.[73] The data set specifies elevations throughout the world in 90-meter intervals, a resolution suitable to distinguish the peaks and plains of Zabul province. Elevation is log-transformed and recorded in meters. Each grid square that we define in our model estimates the average elevation of all points within its borders.

f.   Roads

Roads may be associated with a higher level of insurgent violence such as roadside bombs against counterinsurgents. While many dirt roads exist throughout the province, we limited the roads in this study to Zabul's improved primary and secondary roads.[74] This variable records the presence (1) or absence (0) of a primary or secondary road within a specified grid square.

g.   Access

Access measures the amount of time it takes a person to travel to a city with a population of at least 50,000. Accessibility to cities is also associated with a higher level of insurgent violence because it provides a ready escape route from the counterinsurgents. The data from the European Commission's Joint Research Centre considers environmental and political factors.[75] The closest cities of this size to Zabul are Kandahar, Kabul, and Quetta, Pakistan.

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[73] U.S. Geological Survey, *Shuttle Radar Topography Mission*, 3 Arc Seconds (College Park, MD: Global Land Cover Facility, University of Maryland, 2004), accessed August 31, 2013, http://glcf.umd.edu/data/srtm/.

[74] "Afghanistan Shapefiles, Roads—(Line)" (Islamabad, Pakistan: Afghanistan Information Management Services (AIMS), 2005), accessed August 1, 2013, http://www.aims.org.af/ssroots.aspx?seckeyt=295.

[75] Andrew Nelson, *Estimated Travel Time to the Nearest City of 50,000 Or More People in Year 2000*, Vol. 30 arc seconds (Ispra, Italy: Global Environment Monitoring Unit—Joint Research Centre of the European Commission, 2008), accessed October 31, 2013, http://globe.umbc.edu/documentation/global-variables/accessibility/.

h.   Districts

Districts represent Afghanistan's most significant sub-national governance boundary, yet they receive little attention in most studies on Afghanistan. We retrieved the district shapefiles for Zabul province from the Princeton University Woodrow Wilson School's Empirical Studies of Conflict.[76] For this regression model, if the majority of a grid squares falls within the borders of a district, we label the grid square as belonging to that district.

i.   Settlement Locations

Settlement locations account for areas within Zabul with a population of at least 1000, 3000, and 5000 respectively. Settlement locations address the concern that isolated and small villages may be more likely to be controlled by insurgents.[77]

j.   Tribe and Clan Data

Within Zabul province, sub-tribes of the Ghazi super tribe inhabit a majority of the area, while sub-tribes of the Durani super tribe dominate large portions of the southwest and southeast of the province. Other areas of the province are occupied by members of the Mirgul khel of the Miani tribe north of Shahjoy, and Atwals, Kawaks, and Huazaks in the Deh Chopan and Khak-e Afghan districts.[78] Relative hegemony exists within the province as to where the tribes have established themselves, but several mixed settlements do exist. We gathered the tribal and clan data from Courage Services and augmented the

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[76] "Afghanistan—Administrative Boundaries: 398 Districts," *Empirical Studies of Conflict* (Princeton, NJ: Princeton University Woodrow Wilson School, 2013), accessed October 31, 2013, http://esoc.princeton.edu/files/afghanistan-administrative-boundaries-398-districts.

[77] Center for International Earth Science Information Network—Columbia University, and Centro Internacionale de Agricultura Tropical, *Gridded Population of the World, Version 3 (GPWv3): Population Density Grid, Future Estimates* (Palisades, NY: NASA Socioeconomic Data and Applications Center, 2005), accessed October 31, 2013, http://sedac.ciesin.columbia.edu/data/set/gpw-v3-population-density-future-estimates

[78] Douglas Grindle, "Daechopan District: The Economy, Security and the People," *Field Anthropology* (November 2010):37–40.

gaps in the province with multiple open source reports.[79]   In each case, we differentiate tribal affiliations at the lowest level available.   The tribes and associated clans and khels of Zabul province are listed in Table 3.

Super Tribe	Clan
Durani	Khagiani
Ghilzai	Acha Khel, Hotak, Izab (Hezab), Kakar, Tokhi, Musa, Nasir
Miani	Mirgul Khel
Unknown (presumed Ghilzai)	Atwal, Kawak, Huazak

Table 3.   The clans and tribes of Zabul[80]

The approximate location that each clan occupies in Zabul is represented in Figure 6. If the majority of a grid square falls within the borders of these clan polygons, we label the grid square as belonging to that clan.

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[79] "Afghan Tribal Shapefiles," (Arlington, VA: Courage Services, Inc., 06 December 2010). For access, see https://www.pixtoday.net/af/index.php/DataCard-Afghan_Tribal_Shapefiles_v_1; Douglas Grindle, "Daechopan District: The Economy, Security and the People," *Field Anthropology*, Qalat. Afghanistan (November 2010): 37-40; Shahid Afsar et al., "The Taliban: An Organizational Analysis," *Military Review* 88, no. 3 (May 2008), accessed November 19, 2013, https://www.cimicweb.org/cmo/Afghanistan/Crisis%20Documents/Social%20Well-Being/CFC%20SCD%20Reports/Ethnic%20Minorities/MILREVIEW_Taliban_Organizational_Analysis.pdf; Naval Postgraduate School Program of Culture and Conflict Studies, "Hajji Din Mohammed Biography," accessed August 26, 2013, http://www.nps.edu/programs/ccs/Docs/LeaderProfiles/Hajj_din_Mohammad_Bio.pdf.
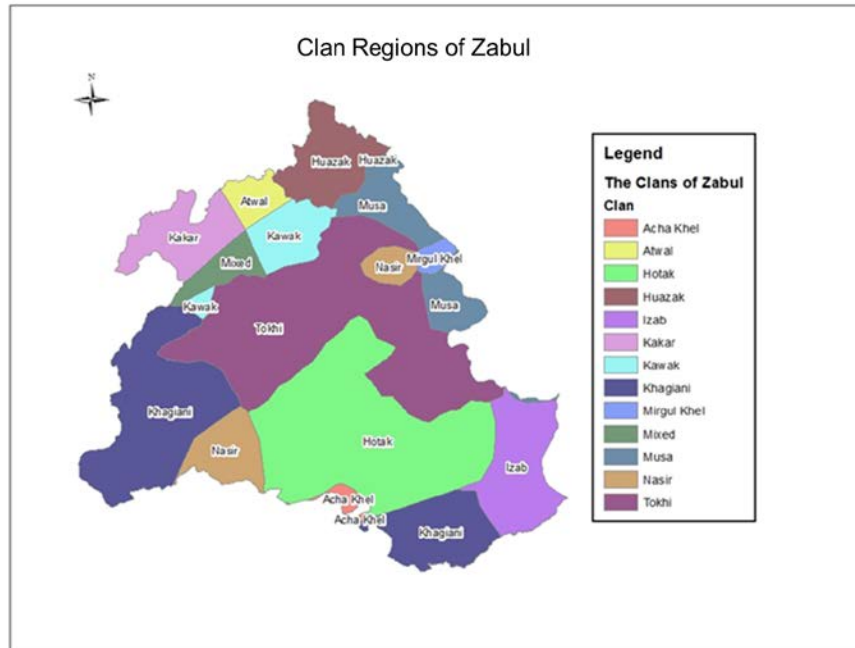
[80] Ibid.

Figure 6.   Tribal areas of Zabul[81]

k.   *Planting and Harvesting Data*

This variable takes into account the weeks that a relationship between the times that locals tend to their fields and insurgent activity levels may exist. We chose the planting and harvest schedules for wheat and poppy in Zabul. The harvest data is available from the University of California Davis' College of Agricultural and Environmental Sciences.[82]

l.   *RIAB Tower Locations*

This variable takes into account the locations of RIAB broadcast towers. We believe the location of the transmission towers offers potential

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81 For access, see https://www.pixtoday.net/af/index.php/DataCard-Afghan_Tribal_Shapefiles_v_1. Data is also available upon request.

82 Hussain Sharifi and Mark Bell, "Cropping Calendar: Dates of Planting and Harvest Major Crops," University of California Davis, accessed October 27, 2013, http://afghanag.ucdavis.edu/country-info/Province-agriculture-profiles/cropping-calendars-1/Crop_calendar_Southwest.pdf.

targets for insurgents to attack. The very presence of these towers may actually increase insurgent violence in a specified area.

m. Spatio-Temporal Lags of Violence

By incorporating spatio-temporal lags of violence, we accounted for previous short-term and long-term historical patterns of violence conducted by both insurgents and counterinsurgents in each of our defined grid squares. Our model considers friendly and enemy actions that occurred in the previous week and the previous month to account for short-term spatio-temporal lags of violence. At the same time, we considered friendly and enemy actions that occurred in each grid square through all of 2009 and the first half of 2010 to account for long-term spatio-temporal lags of violence.

4. Data Summary

Figure 7 depicts a snapshot of our data in time. Note that SIGACTS and CERP spending data cover all of 2009 through 2011. Our independent variables of population engagements and radio messages cover a significantly shorter range of time, the latter half of 2010. As previously mentioned, by gathering SIGACTS data from the beginning of 2009, we established historical patterns of insurgent violence across the province. This enables us to account for previous levels of short-term and long-term insurgent violence in each of our defined grid squares, and it allows us to demonstrate the impact of positive communications across the province. These short-term and long-term patterns of insurgent violence likely influenced where counterinsurgents on the ground conducted positive communications as a direct reaction to the levels of violence in an area.[83] Controlling for this longer history of violence is therefore necessary to reliably demonstrate the independent pacifying effects of positive communications.

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[83] For more details on short-term and long-term patterns of insurgent violence, see Luke N. Condra et al., "The Effect of Civilian Casualties in Afghanistan and Iraq," Working paper 16152, National Bureau of Economic Research, Cambridge, MA, 2010.
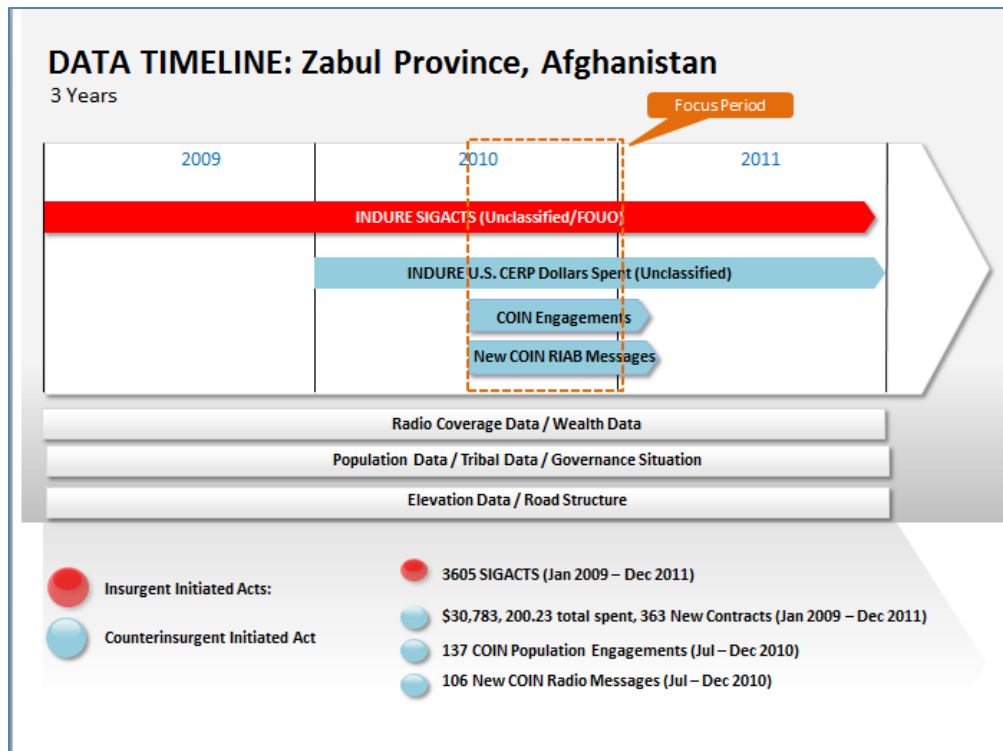
Figure 7.   Data snapshot[84]

IV.   RESEARCH FINDINGS

The evidence drawn from each of our regression models strongly supports our hypothesis that positive communications by counterinsurgent forces reduce insurgent violence. Specifically, a strong correlation exists between the total number of new radio messages broadcasted per week and a reduction in insurgent violence throughout the province. We also see a strong correlation between total welfare engagements conducted per week and a decrease in insurgent violence within a 5000-meter radius of the engagements. Finally, our model indicates a positive relationship between shura engagements and violence levels outside of the RIAB coverage area and a neutral relationship between the two inside the RIAB coverage area. In this chapter, we discuss each of these findings, potential alternative explanations, and a series of robustness checks used to validate our findings.

A.   RESULTS

We report the results of our main regression models in Table 4. Model 1 depicts our baseline specification of insurgent violence with all control variables before we introduce each of our independent variables one at a time. Models 2 through 4 show the results of each independent variable (for example, radio messages, welfare engagements, and shura engagements) when introduced into the regression separately. Model 5 shows the regression results when all three positive communication variables are included in a combined specification.

1.   Positive Communications Variable: Radio Messages

According to our findings, counterinsurgent radio broadcasts substantially decrease insurgent violence. When we introduce the radio message variable into the baseline model of insurgent violence (see model 2), the coefficient for **radio messages** is negative and statistically significant ($p < 0.001$). As illustrated in Figure 8, predictions derived from the model plotted here are calculated by holding the values of all other variables constant at their means

show that insurgent violence is expected to decrease as total radio message output per week increases. The prediction remains consistent even when the remaining two positive communication variables are added (see model 5). This finding validates our theory that radio broadcasts provide an effective medium to transmit political messages or oral propaganda, regardless of the message's content. Although different cultures approach media in different ways, which may affect how messages are perceived, our results indicate that the overall sentiment of the population of this agrarian province is receptive to messages broadcasted by counterinsurgents. As long as counterinsurgents continue to push their messages through radio broadcast over time, the amount of violence within the broadcast area will decrease.

Figure 8.   The effect of radio messages on violence levels

2.   Positive Communications Variable: Welfare Engagements

According to our findings, welfare engagements conducted by counterinsurgents also substantially decrease insurgent violence levels. When we introduce the welfare engagements variable to the baseline model of insurgent violence (see model 3), the coefficient for welfare engagements is

negative and statistically significant ($p < 0.001$). As illustrated in Figure 9, the prediction shows a decrease in insurgent violence within 5000-meters as the number of welfare engagements per week increases while holding the values of all other variables constant at their means. As shown in model 5, the relationship remains consistent when we add the remaining two positive communication variables. This finding shows that providing social and humanitarian services to the population decreases insurgent violence regardless of whether welfare engagements take place inside or outside of the RIAB coverage area.
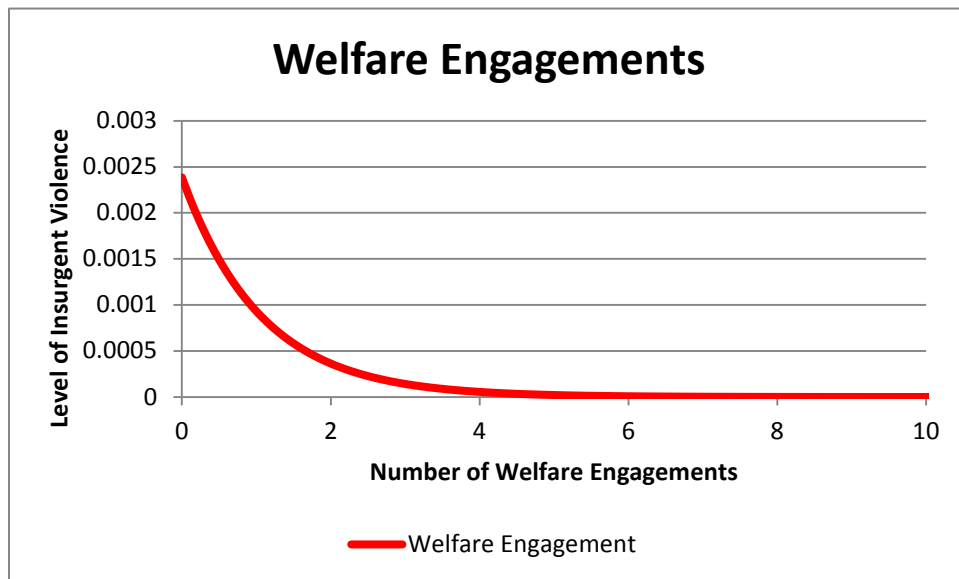
Figure 9.   The effect of welfare engagements on violence levels

3.   Positive Communication Variable: Shura Engagements

Lastly, we find that shura engagements conducted by counterinsurgents cause an increase in violence when conducted outside of the RIAB broadcast area. When we add the shura engagements variable to the baseline model of insurgent violence (see model 4), the coefficient for shura engagements is positive and statistically significant ($p < 0.05$). This finding shows an increase in insurgent violence within 15,000-meters of the location where the shura engagement takes place. This result also remains consistent when we add the remaining two positive communication variables (see model 5).

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At first glance, this finding may seem to contradict our expectation that shura engagements would help to initiate a dialogue between community leaders and counterinsurgents, thereby reducing the amount of insurgent violence that the population would be willing to tolerate. However, we interpret this observed increase in insurgent violence in the vicinity of shura engagements as the result of insurgent attempts to oppose the counterinsurgent message. When counterinsurgents seek to control the message in a remote area through direct local engagements, insurgents resort to symbolic violence to advertise their local strength and inhibit fence sitters from siding with the state.[85]

In contrast, our models show that when counterinsurgents conduct shura engagements within the RIAB broadcast area their violence-promoting effects are neutralized. When we interact the shura engagements variable with the RIAB coverage area, the coefficient for the interaction term is negative, statistically significant ($p < 0.05$.), and has a similar magnitude to the positive coefficient for the shura engagements variable (see Model 4). This indicates that shura engagements, depending on their context, can either increase insurgent violence, or have a neutral effect on insurgent violence. As illustrated in Figure 10, when shura engagements occur *outside* the RIAB coverage area, insurgent violence increases in their vicinity; however, when shura engagements take place *inside* the RIAB coverage area, violence within the vicinity remains constant over time.

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[85] McCormick and Giordano, "Things Come Together," 307.
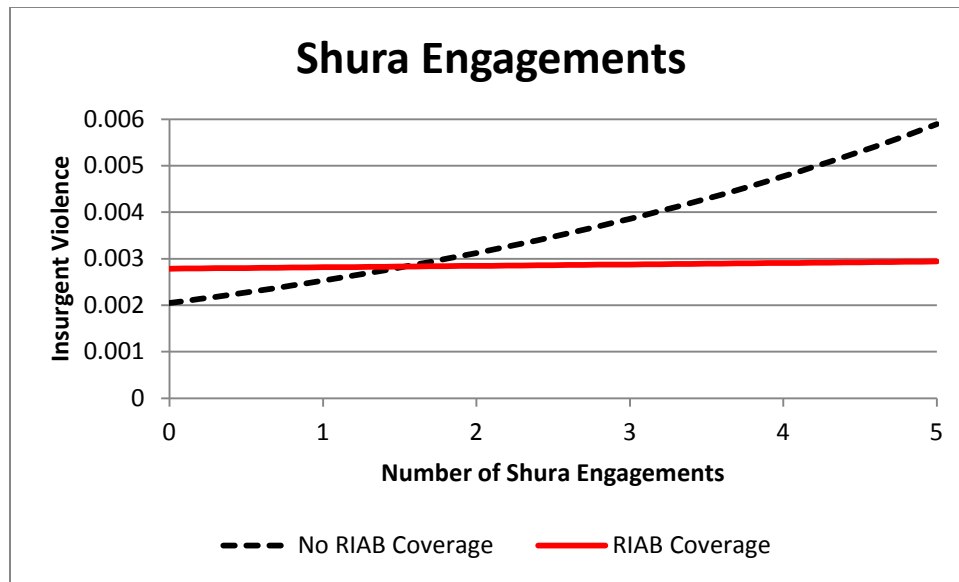
Figure 10.   The effect of shura engagements on violence levels

This lack of shura-induced violence inside the RIAB coverage area provides strong evidence of the importance of mass communication infrastructure in contested areas. Outside the radio coverage area, events tend to be spun to the advantage of the insurgents. In contrast, in areas where the state maintains influence over the information environment, insurgents appear to be far less capable of using shura engagements to promote further violence.

B.   ALTERNATIVE EXPLANATIONS AND ADDITIONAL FINDINGS

We considered a number of alternative explanations in our model to confirm that the correlation between our key variables did not occur by chance. Specifically, we incorporated several control variables that may affect the amount of violence that occurs in each observed grid-week.   The inclusion of these control variables within our model did not affect the significance of any of our key independent variables.

Access favors counterinsurgents with a negative coefficient ($p < 0.001$). Though we initially suspected this variable to favor insurgent freedom of movement, it seems that the government can more easily control areas that they can easily get to.

The coefficients for both **population** and **roads** show statistically significant positive relationships ($p < 0.001$). These variables provide further evidence that higher levels of insurgent violence occurs near populated areas and on primary and secondary roads. Population as an indicator of violence is a common finding in social science research, while increased violence near roads likely signifies that insurgents are targeting counterinsurgents with roadside bombs and other deliberate attacks. While we expected roads to have a negative relationship with violence levels for the same reasons as accessibility, in actuality, they seem to increase violence as the road itself becomes a target.

RIAB tower locations also display the same positive effect on violence levels because they, like roads, become targets. While the broadcasts themselves have a pacifying effect on the population, insurgents consequently view the physical towers as a threat and target them to deny this effect to the government. As a result, there may be an increase in violence at the precise locations of this infrastructure; however, as discussed previously, a statistically significant negative effect on levels of violence is observed throughout the rest of the province.

While we expected insurgent violence to decrease during the harvesting and planting seasons because of job availability, we observed the opposite case in Zabul province, specifically with regard to wheat. For this variable, we found a robustly positive coefficient ($p < 0.001$) that may indicate that agriculturally active seasons are prone to violence. This could also prove coincidental as the wheat harvest season occurs between mid-May and mid-July, the height of the traditional fighting season in Afghanistan. Further research is needed to more thoroughly explore this variable.

Additional findings indicate that **wealth** has a statistically significant positive effect ($p < 0.05$) at a grid resolution of 4000-meters, but is insignificant at all other resolutions. **Elevation** had a statistically significant negative effect at the largest and smallest resolutions (2500 and 5000 meters), but did not prove statistically significant in the middle resolutions.

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Lastly, the baseline regression model of insurgent violence (model 1) consistently identified specific settlements, districts, and clans as having strong correlations with violence. Specifically, in Zabul province, we determined that areas dominated by the Nasir and Khagiani clans have reduced levels of violence, while areas dominated by the Kakar clan have increased levels of violence.

C.   ROBUSTNESS CHECKS

To ensure that the results of our model can withstand additional scrutiny, we ran our model using a variety of different grid square resolutions. Although the 4000-meter grid square allows us to capture micro-level effects of positive communications on insurgent violence, we conducted robustness checks using 2500, 3000, and 5000-meter grid squares, respectively. As illustrated in Table 5, the results are consistent with our model's original findings. It is interesting to note that *CERP* actually appears to increase insurgent violence when considered within a 10000-meter radius, but ceases to be statistically significant when we run the model with 3000-meter grid square resolution. Similarly, *wealth* ceases to be statistically significant at both the 3000 and 5000-meter grid square resolutions. Regardless of the resolution used, the coefficients for each of our key independent variables remain consistent and statistically significant. The fact that our results hold regardless of geographic resolution demonstrates both the statistical robustness of our main findings and the enormous potential for the use of our approach as a tool by a variety of counterinsurgent organizations at both the tactical and operational levels.

	4000-meter				
	Model 1	Model 2	Model 3	Model 4	Model 5
radio message		-0.0781****			-0.0728****
		(0.0195)			(0.0195)
welfare engagement			-0.9820****		-0.9401****
			(0.2373)		(0.2368)
shura engagement				0.2540***	0.2116**
				(0.0858)	(0.0866)
RIAB coverage & shura engagement				-0.2267**	-0.2009*
				(0.1146)	(0.1148)
RIAB coverage	0.1855	0.2676**	0.2763**	0.3272**	0.3088**
	(0.1241)	(0.1348)	(0.1345)	(0.1390)	(0.1379)
CERPs	0.00006***	0.00005**	0.00005***	0.00005***	0.00005**
	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)
wealth	0.3763**	0.4048**	0.3756**	0.3999**	0.3729**
	(0.1680)	(0.1779)	(0.1780)	(0.1788)	(0.1784)
elevation	-0.4929	-0.8279	-0.8357	-0.7717	-0.8202
	(0.8834)	(0.9385)	(0.9369)	(0.9434)	(0.9415)
population	0.2691****	0.2591****	0.2605****	0.2601****	0.2592****
	(0.0464)	(0.0493)	(0.0492)	(0.0495)	(0.0492)
access	-0.0045****	-0.0040****	-0.0040****	-0.0040****	-0.0039****
	(0.0007)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
road	0.9291****	0.9362****	0.9340****	0.9322****	0.9338****
	(0.1181)	(0.1256)	(0.1251)	(0.1261)	(0.1254)
urban	-0.1834	-0.0868	-0.0812	-0.0903	-0.0972
	(0.1762)	(0.1876)	(0.1871)	(0.1885)	(0.1876)
RIAB tower location	0.6972****	0.6346	0.6467****	0.6160****	0.6300****
	(0.1261)	(0.1347)	(0.1340)	(0.1355)	(0.1346)
harvest and planting	0.6508****	0.8208****	0.9032****	0.7967****	0.9281****
	(0.1724)	(0.1909)	(0.2029)	(0.2027)	(0.1920)

Note: Settlement, district, and tribal fixed, including spatial-temporal lag of violence and cubic temporal trend, were included but not shown. Robust standard errors are in parenthesis.

*p < 0.1, **p < 0.05, ***p < 0.01, ****p < 0.001

Table 4.   Quasi-Poisson regressions: Insurgent violence (4000–meter)

	2500–meter	3000–meter	4000–meter	5000–meter
	Model 5	Model 5	Model 5	Model 5
radio message	-0.1251****	-0.0521**	-0.0728****	-0.0712****
	(0.0253)	(0.0215)	(0.0195)	(0.0199)
welfare engagement	-1.1490****	-0.7685***	-0.9401****	-0.5681**
	(0.3217)	(0.2486)	(0.2368)	(0.2317)
shura engagement	0.5155****	0.3849****	0.2116**	0.2248***
	(0.1499)	(0.1149)	(0.0866)	(0.0810)
RIAB coverage &	-0.4841***	-0.4112***	-0.2009*	-0.2175*
shura engagement	(0.1667)	(0.1353)	(0.1148)	(0.1162)
RIAB coverage	0.4470**	0.4993***	0.3088**	-0.2073
	(0.1887)	(0.1600)	(0.1379)	(0.1440)
CERPs	0.00007**	0.00000	0.00005**	0.00005**
	(0.00003)	(0.00002)	(0.00002)	(0.00002)
wealth	0.1468	-0.2550	0.3729**	0.1226
	(0.5370)	(0.4875)	(0.1784)	(0.1070)
elevation	-2.8280**	-1.0160	-0.8202	-1.8250*
	(1.1270)	(1.0520)	(0.9415)	(1.0150)
population	0.1913****	0.2871****	0.2592****	0.3516****
	(0.0426)	(0.0505)	(0.0492)	(0.0611)
access	-0.0015*	-0.0040****	-0.0039****	-0.0037****
	(0.0009)	(0.0009)	(0.0008)	(0.0008)
road	0.7435****	1.0500****	0.9338****	0.6972***
	(0.1419)	(0.1351)	(0.1254)	(0.1316)
urban	-0.0583	0.4576**	-0.0972	-0.0491
	(0.2757)	(0.1998)	(0.1876)	(0.1939)
RIAB tower location	0.7037****	0.5483****	0.6300****	0.7045****
	(0.1787)	(0.1655)	(0.1346)	(0.1418)
harvest and planting	1.1110****	0.6058***	0.9281****	0.8536****
	(0.2262)	(0.2194)	(0.1920)	(0.1941)

Note: Settlement, district, and tribal fixed, including spatial-temporal lag of violence and cubic temporal trend, were included but not shown. Robust standard errors are in parenthesis.

*p < 0.1, **p < 0.05, ***p < 0.01, ****p < 0.001

Table 5.   Quasi-Poisson regression: Insurgent violence (robustness)

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V.   CONCLUSIONS AND RECOMMENDATIONS

This study was initiated to explore the effectiveness of positive communications in reducing violence during a counterinsurgency. In doing so, we also offer an approach that counterinsurgents can use to gain a thorough understanding of their operating environment and assess their progress over time. When used properly, this tool is the manifestation of Sun Tzu's view on assessments, "He who has a thorough knowledge of his own conditions as well as the conditions of the enemy is sure to win all battles."[86] This approach affords commanders, planners, and analysts the ability to see both himself and the enemy.

Computing power and processes have developed significantly over the last several decades. Counterinsurgents can and should take advantage of these technological advancements to more effectively combat insurgents. The ability to collect and analyze vast amounts of information within an organization's battle space enables them to make more informed decisions in executing COIN strategy, while also allowing them to more effectively measure progress over time. The use of spatial regression to measure effectiveness can be executed at the tactical, operational, and strategic levels. It can provide battle space owners and the standing government a better method to understand the operational environment and apply resources more effectively.   This final chapter will synthesize our empirical findings, explore the implications of our model, and discuss further research opportunities to improve upon the limitations of our results.

A.   SYNTHESIS OF EMPIRICAL FINDINGS

The nature of today's counterinsurgency wars leads analysts to gather a variety of data to increase situational awareness and understanding of the

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[86] Lo Shun-Te, *Sun Tzu on the Art of War* (Taipei, China: Li Ming Wen Hua Shia Yeh Kung Ssu, 1991), 71–72.

operating environment. The tools used by the U.S. military, such as the Combined Information Data Network Exchange and the Distributed Common Ground System-Army, to track both friendly and enemy activities demonstrate that the infrastructure to collect data exists and is currently in use by counterinsurgents. We believe, however, that more can be done with this data to assist counterinsurgents in achieving their objectives. By examining the correlation of several variables that are already measured on a regular basis, we demonstrate strong correlations between some COIN actions and violence levels in Zabul. More thorough employment of these techniques could drastically improve the analytical capability of today's warfighters.

Our findings indicate that positive communications do in fact reduce insurgent violence. Specifically, radio broadcasts initiated by counterinsurgents appear to have decreased insurgent violence throughout the province. Additionally, welfare engagements conducted by counterinsurgents generated substantial decreases in local levels of insurgent violence. This finding shows that providing social and humanitarian services to the population can decrease insurgent violence regardless of whether such actions take place inside or outside of the state's mass communication infrastructure. Finally, our study illustrates that shura engagements conducted by counterinsurgents likely cause an increase in violence when conducted outside of the RIAB broadcast area, but have no such effect inside the broadcast area where the state maintains influence over the political messages disseminated in the wake of a local engagement. Our evidence thus makes clear that positive communications by counterinsurgents is a critical component of COIN strategy.

B. IMPLICATIONS AND APPLICATION

Furthermore, our analysis shows that spatial regressions, based on readily available data, can significantly increase the efficiency with which counterinsurgents make inferences about the battle-space. A broader incorporation of our methodology could greatly enhance the ability of

counterinsurgents in the field to quickly identify which types of activities they should conduct and which they should avoid in their particular operating environment, and thus ultimately facilitate their victory.

The adoption of this approach could prove beneficial to counterinsurgents in a number of ways. From a practical perspective, this methodology can be applied to any organization, government or military, looking to measure the effectiveness of its actions or to gain an understanding of its operating environment. The model can be customized to meet the needs of platoon sized elements responsible for a battle space of only a few villages or made suitable to accommodate a corps sized element measuring the effectiveness of counterinsurgent actions for an entire country or region. To make this model adaptable for a smaller organization, we recommend measuring regression statistics at high resolution grid squares (i.e., 1000-meters). Larger organizations operating at the operational level will likely benefit more by using lower resolutions (3000 to 5000-meters.) The model can be scaled to meet the needs of all sizes and compositions of counterinsurgent organizations.

In addition to serving as an assessment tool, this methodology will prove beneficial in assisting planners with mission analysis. Whether a unit is taking initial control of battle space or conducting a relief in place of a different unit, spatial regression models can make use of existing data to identify things not readily apparent during traditional mission analysis. For example, the incorporation of our approach could assist planners in identifying specific clans to partner with to benefit the incumbent government.

Our research thus suggests that a better way to conduct COIN assessments exists. The use of this methodology can assist planners in seeing the enemy, seeing themselves, and seeing their operational environment by allowing them to track their progress in direct relation to effects observed on the battlefield.

C. LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The usefulness of this approach to assess the effectiveness of COIN goes well beyond measuring the effectiveness of positive communications. To generate accurate reflections of an organization's effectiveness and therefore provide critical information to decision-makers in a timely manner, it would prove beneficial to more thoroughly examine additional relationships between several of the variables that we included in our model. Further study needs to be conducted to explore other elements of hard power and their relationship to violence levels. Specifically, additional research can strive to answer the following questions:

- What is the effect of coercive counterinsurgent raids on local violence levels?

- Do coercive counterinsurgent actions alter the impacts of positive communications?

- What is the minimum amount of CERP spending, or number of CERP projects, at which an effect on violence will be observed?

- Which types of radio messages broadcasted by counterinsurgents are most effective in reducing violence?

- Which types of welfare engagements are most effective at reducing violence?

- Which types of violence are decreased by positive communications, and which types are unaffected?

For a variety of reasons, our study did not address these questions. We were unable to find accurate, unclassified data on raids conducted by counterinsurgent forces. Incorporation of this variable would enable future researchers to further explore the balance of hard power and soft power in a COIN situation. Because of time constraints, we did not fully explore CERP as an independent variable in terms of both money spent and the number of projects completed, or explore differences in the types of violent activity that are affected by positive communications. It would also prove beneficial to COIN operatives to determine which types of welfare engagements have a greater impact on violence levels. For example, the MISO and civil affairs communities

could plan engagements more effectively if they knew that engagements that distribute school supplies in an area have more of an impact on violence levels than engagements that distribute food goods. The answer to these questions is likely dependent on the current and past situations in each geographic region assessed, but could significantly increase the efficiency of COIN forces.

Approaching the model from a broader scope could also prove beneficial for counterinsurgents. From a holistic perspective, it is worth exploring several combinations of interaction variables to determine the optimal balance between hard and soft power that counterinsurgents should use. Identifying the proper ratio of the application of elements of both hard power and soft power in each region could facilitate the development of more comprehensive and effective campaign strategies for counterinsurgents.

D. CONCLUSION

Analysts have tried for generations to determine the proper things to measure to assess the effectiveness of counterinsurgents. Some, such as MACV in Vietnam, have tried to measure everything.[87] Others, such as ISAF, have based measures of effectiveness on qualitative assessments at the district and provincial levels.[88] Our study demonstrates a technique to conduct accurate quantitative assessments more efficiently and more effectively. By examining selected aspects of positive communications in Zabul, Afghanistan, both across space and across time, we clearly identify strong evidence of their role in reducing violence.

Moreover, the findings reported here are just the beginnings of this method's potential, as this approach can be easily adapted to each unique operating environment. By taking input from organizations actively conducting counterinsurgent operations and identifying metrics that are important within a

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[87] Daddis, *No Sure Victory,* 330.
[88] Connable, *Embracing the Fog of War,* 158.

particular socio-political context, any force could use the methods described here to produce more accurate inferences about the conditions under which success is likely to be achieved.

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